AMENDMENT

In The Claims:

The claims of the application have been amended as shown in the following marked copies of the claims which replace all prior versions thereof.

1-22 (cancelled).

23. (currently amended) A ~~computer-implemented~~ method of ~~authenticating an individual's identity in real-time based on a biometric signal~~ measuring a level of similarity between a sample and physical characteristics of an individual, comprising:

~~receiving a biometric signal from the individual;~~

receiving input data representing ~~biometric information~~ physical characteristics of an individual of a known classification;

processing the input data to generate an output representing class-specific probability distributions based on the received input data;

computing a transform based on the output; and

transforming the probability distributions onto a normalized scale based on the transform, ~~the scale having a range of values indicative of the authentic or spurious nature of the biometric signal of the individual and from which the identity of the individual is authenticated;~~

determining an equal error rate associated with the class-specific probability distributions; and

establishing at least one decision criterion based upon the equal error rate wherein the at least one decision criterion corresponds to a level of similarity between a sample and the physical characteristics of the individual.

24. (canceled).

25. (previously presented) The method according to claim 23, wherein the step of transforming comprises:

defining at least two regions of the output; and

mapping the at least two regions onto the normalized scale.

26. (previously presented) The method according to claim 25, wherein the values of the normalized scale range from 0 to 100.

27. (previously presented) The method according to claim 25, wherein the mapping is performed through linear interpolation.

28. (currently amended) The method according to claim 25, wherein the at least two regions comprise varying degrees of ~~authenticity~~ similarity.

29. (previously presented) The method of claim 23, wherein the input data further comprises at least one optional transform parameter.

30. (previously presented) The method of claim 23, wherein the normalized scale is linear in cumulative probability.

31. (previously presented) The method of claim 23, wherein the normalized scale is derived from a ratio based on the probability distributions.

32. (canceled).

33. (currently amended) The method of claim 23, wherein the ~~biometric information is~~ physical characteristics of the individual are derived from ~~a characteristic~~ characteristics of speech.

34. (cancelled).

35. (currently amended) A pattern recognition system ~~adapted to authenticate an individual's identity in real-time based on a biometric signal, the pattern recognition system~~ comprising:

a computer readable medium having computer readable program code embodied thereon, the computer readable program code, when executed, implementing on the computer a method of ~~receiving the biometric signal from the individual,~~ receiving input data representing physical characteristics of an individual ~~biometric information~~ of a known classification, generating an output representing class-specific probability distributions based on the received input data, computing a transform based on the output, and transforming the probability distributions onto a

normalized scale based on the transform, ~~wherein the scale has a range of values indicative of the authentic or spurious nature of the biometric signal of the individual and from which the identity of the individual is authenticated~~ determining an equal error rate associated with the class-specific probability distributions; and establishing at least one decision criterion based upon the equal error rate wherein the at least one decision criterion corresponds to a level of similarity between a sample and the physical characteristics of the individual.

36. (currently amended) The system of claim 35, further comprising decision criteria selection means for selecting the at least one decision criterion based on at least one value on the normalized scale from which the ~~identity of the individual is authenticated~~ level of similarity between a sample and the physical characteristics of the individual can be measured.

37. (previously presented) The system of claim 35, wherein the transformer constructor comprises means for combining the class-specific probability distributions.

38. (previously presented) The system of claim 35, wherein the transformer comprises:

means for defining at least two regions of the combined class-specific probability distributions; and

means for mapping the at least two regions onto the normalized scale.

39. (previously presented) The system of claim 35, wherein the values of the normalized scale range from 0 to 100.

40. (previously presented) The system of claim 35, wherein the transformer constructor is further adapted to receive input in the form of at least one optional transform parameter.

41. (currently amended) The system of claim 35, wherein the at least two regions represent varying degrees of ~~authenticity~~ similarity.

42. (previously presented) The system of claim 35, wherein the normalized scale is linear in cumulative probability.

43. (previously presented) The system of claim 35, wherein the normalized scale is derived from a ratio based on the probability distributions.

44. (currently amended) The system of claim 35, wherein the at least one decision criterion defines a single threshold number corresponding to the level of similarity ~~from which to determine whether the biometric signal of the individual is authentic or spurious~~.

45. (cancelled).

46. (currently amended) The ~~method~~ system of claim 35, wherein the ~~biometric information~~ physical characteristics of the individual are ~~is~~ derived from ~~a characteristic~~ characteristics of speech.

47. - 51. (cancelled).

52. (new) The method according to claim 26, wherein the normalized scale range is calibrated to set the equal error rate at a value of 50 on the normalized scale.

53. (new) The method of claim 33, wherein the physical characteristics of speech are comprised of both physiological and behavioral characteristics of speech.

54. (new) The system of claim 39, wherein the normalized scale range is calibrated to set the equal error rate at a value of 50 on the normalized scale.

55. (new) The system of claim 46, wherein the physical characteristics of speech are comprised of both physiological and behavioral characteristics of speech.